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ISRAEL COOK RUSSELL (1852–1906)

Fellow in Class II, Section 1, 1904.

The bones of a living memorial of I. C. Russell are found in the successive volumes of Who's Who down to 1906–7. Among the notices shortly after his death two are pre-eminent,— the one by Bailey Willis, his colleague on the U. S. Geological Survey,[3] which contains a full bibliography. This notice was prepared for the Geological Society of America, of which Russell was President when he died, and for which he had prepared his Presidential Address just before he was stricken with pneumonia, his last sickness. The other was by one of his colleagues at Ann Arbor, Dr. Chas. A. Davis,[4] who himself has just been called from this life.

Professor Russell's life may be divided into three parts: —

1. *Before his connection with the Geological Survey.* He was born at Garrattsville, N. Y., Dec. 10, 1852, son of Barnabas Russell and Louisa Sherman Cook Russell. He was of New England descent, and Willis tells good stories of the New England reserve characteristic of his ancestors and somewhat of Russell himself. When he was twelve years old he moved to Plainfield, N. J. He was then on the Newark formation, a monographic study of which was one of his principal scientific works. From his birth until the time of his connection with the United States Geological Survey we might consider him in training,— first in the High School near his home, then in the Hasbrook Institute in Jersey City, next in New York University (A. B. and C. E. 1872) then in the Columbia School of Mines. In 1874 he was photographer and naturalist to the U. S. Transit of Venus Expedition to New Zealand and Kerguelen Island. When he came back he was made assistant Professor of Geology at the Columbia School of Mines and was there from 1875 to 1877. This time included a season in New Mexico and a journey to Europe and finished the first quarter century of his life. Probably the happiest and most fruitful part of his career was the period from 1875 to 1892.

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[3] (Bulletin of the Geological Society of America, Vol. 18, p. 582).

[4] (Published in the 9th report of the Michigan Academy of Sciences for 1907, p. 28). See also Science, Oct. 5, 1906, vol. 24, p. 427, and Journal of Geology, vol. 14 (1906), p. 663.

2. *Work as Government Geologist, 1877–1892.* For a quarter of a century he was a servant of the United States in the Geological Survey. And that was practically his sole occupation until 1892. He ranked with Gilbert and Powell as one of the great geologists of the early years of the Survey. Like them he was an explorer, like them he had an admirable literary style. I remember he once said that it was his custom never to write anything until the end of the day's work. In this he was doubtless aided by his retentive memory. In the relatively arid regions of the great West where geology was on a large scale such a method was no doubt quite serviceable and gave to his work a literary quality which constant jottings cannot pretend to have. But I remember well the shock it gave to one who, accustomed to working in the mines and Michigan woods, would have been utterly lost unless he had kept some sort of continuous notes. Artistic temperament was manifest in Russell not only in his literary style but in his keen appreciation of the beauties of nature, which he saw not only with the eye of the savant but with that of the artist. His description of his ascent of Mt. St. Elias is interesting to any one; his report of the Mono Lake region of California was so vivid that a demand was made for a reprint of the report, to be paid for by the residents as a tourist advertisement of the region, for which purpose its beauties of style well fitted it. His artistic temperament was also shown in his skill and success as a photographer. Many of the illustrations of the U. S. Geological Survey which are reprinted in the text books of geology will be found to have been taken by him. He had the knack of knowing whether a photograph would really show and bring out the scientific point which one can often see with the naked eye so much better than in a photograph. He also took pains to get something which would make his records not only of scientific but also of artistic value.

His artistic temperament also showed in a certain fastidiousness and reserve which perhaps made him less successful as a teacher. To be a popular teacher one must not be too fastidious or too critical of the half-baked endeavors of the partly educated. And he had not much of that superficial bonhommie which goes far toward making one generally popular.

3. *At Ann Arbor.* In 1892 he became Professor of Geology at the University of Michigan and remained so the rest of his life. He continued his connection with the U. S. Geological Survey after he became Professor of Geology at Ann Arbor; being, however, employed upon various special problems, often connected with water

resources. Even such problems, however, he could not handle solely from an economic point of view. His studies of Snake River Valley and other similar problems made a decided contribution to the general scientific theory of igneous action.

In Michigan University he made no such impression as in the work of the Geological Survey. President Angell himself told me that he did not consider that it was necessary for every State University to build up a great geological department; and as Wisconsin had had two great geologists as presidents he did not feel called upon to rival her. Nor was Russell, with his artistic temperament, the type of man who rejoices in running a large department.

He was, however, keenly interested in the Michigan Academy of Science, was among its early presidents, and served it in many ways. As his connection with the U. S. Geological Survey became less he found time to take up some of the local problems of Michigan. He was never a specialist in Paleontology and therefore did not pretend to continue the researches of Alexander Winchell, his predecessor; but he reverted naturally to those studies of the lakes and of surface geology which had interested him from the very first paper he printed. He really inspired the study of the almost unique delta of the St. Clair River made by Leon J. Cole, one of his students. He also prepared a study of the surface geology of a good part of the upper peninsula and its molding under the ice, and threw light on the origin of drumlins and hills of the same canoe-shaped type due to the remodelling of preexisting till sheets, and also on the curious Indian ridges known as eskers. Having been used to topographic maps in his western work he naturally felt the lack of them on coming to Michigan and began to agitate for the co-operation of the State with the U. S. Geological Survey in their preparation. If it had not been for him I do not think this co-operation would have begun as soon as it did.

His scientific works, a complete bibliography of which is given by Willis, may be grouped as follows:— 1st, a series of papers on lakes, their origin and phenomena, in which he treats the modern Great Lakes and those of New Zealand and those shrunken remnants of lakes like the Great Lakes, out West, especially Lake Lahontan, the monograph on which he prepared; 2nd, a series of papers culminating in a correlation essay on Triassic and allied beds of the Atlantic Coast, which he called the "Newark Formation"; 3rd, a series of descriptions, in which he appears both as artist and savant, of those great contrasted phenomena of nature, the volcanic eruption and the wondrous obelisk of Mt. Pêlée on the one hand, and on the other

Mount St. Elias and its piedmont glaciers. Thus his studies in the igneous rocks of the Newark formation, into the activities of Mount Pêlée, the Snake River and other volcanic regions of the great West, gave him opportunities to add materially to our knowledge of igneous geology, while his explorations in Alaska, the northwestern United States and Michigan, made him one of the authorities in glacial geology.

He was, as C. A. Davis says, a delightful story teller if drawn out, brilliant and witty, so that his speeches at the early dinners of the Geological Society of America, and the passages at arms between him and Emerson shine in the writer's memory, yet he was not a man of many words. Physically he seemed small and slender for one who had proved himself an intrepid explorer, and is another illustration of the fact that much may be done by one of small size. His civic public spirit was shown by his careful report on the water supply of Ann Arbor. He held the academic distinctions which one might expect; he was President of the Michigan Academy of Science, Chairman of Section E of the American Association for the Advancement of Science, was President of the Geological Society of America at the time of his death, May 1, 1906, and was honorary Doctor of Laws of New York and Wisconsin Universities. He was married Nov. 27, 1886, to J. Augusta Olmsted and by her had four children, three daughters, Ruth, Helen, Edith, and a son, Ralph. Ruth was graduated with the degree of A.B. from the University of Michigan in 1910, and subsequently married and now resides in Salt Lake City. Helen also married and lives in Chicago.

ALFRED C. LANE.